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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
WONG, ALLEN C	

ART UNIT	PAPER NUMBER
2621	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/539,319	FONTIJN ET AL.	
	Examiner	Art Unit	
	Allen Wong	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
(f) BACKGROUND OF THE INVENTION.
    (1) Field of the Invention.
    (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Content of Specification

(a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.

(b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.

(c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.

(d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).

(e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

(f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:

(1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."

(2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."

(g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the

invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

(h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.

(i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.

(j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

(k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).

(l) Sequence Listing, See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

Above line 1 on page 1 of applicant's specification, the "Background of the Invention" can be placed for clarification purposes.

At line 25 on page 1 of applicant's specification, "Brief Summary of the Invention" can be placed for clarification purposes.

Above line 25 on page 3 of applicant's specification, "Brief Description of the Drawings" can be placed for clarification.

Above line 1 on page 4 of applicant's specification, "Detail Description" can be placed for clarification.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

> Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in Sec. 101.
>
> ... a signal does not fall within one of the four statutory classes of Sec. 101.
>
> ... signal claims are ineligible for patent protection because they do not fall within any of the four statutory classes of Sec. 101.

Claims 12-15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 12-15 define a signal carrying a stream of audiovisual data with descriptive material. While "functional descriptive material" may be claimed as a statutory product (i.e., a "manufacture") when

embodied on a tangible computer readable medium, a signal embodying that same functional descriptive material is neither a process nor a product (i.e., a tangible "thing") and therefore does not fall within one of the four statutory classes of § 101. Rather, "signal" is a form of energy, in the absence of any physical structure or tangible material.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8 and 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tan (6,542,549) in view of Vetro (6,490,320).

Regarding claims 1 and 10, Tan discloses a circuit that comprises a central processing unit (col.8, ln.13-15) and a method of determining the size of a compressed stream of audio-visual data (col.9, ln.39-47, Tan discloses the video complexity verifier queue is determined to check whether the size of the data does not exceed the maximum amount of macroblocks permitted by the constraints as computed dependent on the complexity information of the audiovisual data), wherein the compression has taken place by means of variable bit-rate compression (fig.12, element 301, note data is compressed), the method comprising the step of determining the duration of the stream of audio-visual data (col.9, ln.26-28 and ln.38-42, in fig.12-13, Tan discloses the

time or duration of the audiovisual data that is compressed so that an appropriate bit rate can be determined for the flow of data), characterized in that the method further comprises the following steps:

determining the complexity of the stream of audio-visual data (col.9, ln.9-15 and 28-33, Tan discloses the complexity of the stream of audiovisual data is determined); and

determining the size of the stream of audio-visual data using the information determined in the previous steps (col.9, ln.39-47, Tan discloses the video complexity verifier queue is determined to check whether the size of the data does not exceed the maximum amount of macroblocks permitted by the constraints as computed dependent on the complexity information of the audiovisual data).

Tan does not disclose determining the compression technique. However, Vetro teaches determining the compression technique (col.7, ln.62 to col.8, ln.5, Vetro discloses the content classifier that checks information that include meta data that includes descriptors and description schemes that can aid the determination of compression technique applied to the compressed bitstream). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Tan and Vetro, as a whole, for ascertaining an efficient, improved coding/decoding of audiovisual data so that one can enjoy broadcast programs.

Regarding claims 2 and 13, Tan discloses wherein the complexity of the stream of audio-visual data is indicated by an average bit rate at a given compression

technique (col.9, ln.9-15, note speed or bit rate requirements are used to indicate the complexity of the compression technique).

Regarding claims 3 and 14, Tan discloses wherein the complexity of the stream of audio-visual data is indicated by a factor of information redundancy in the stream of audio-visual data (col.9, ln.54-59 and col.14, ln.54, note the weight w can be considered the factor of redundancy).

Regarding claims 4, 12 and 15, Tan does not disclose wherein the complexity of the stream of audio-visual data is derived from meta-data associated with the stream of audio-visual data. However, Vetro teaches wherein the complexity of the stream of audio-visual data is derived from meta-data associated with the stream of audio-visual data (col.8, ln.1-5 and col.8, ln.63 to col.9, ln.5, note meta data includes complexity of the audiovisual data). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Tan and Vetro, as a whole, for ascertaining an efficient, improved coding/decoding of audiovisual data so that one can enjoy broadcast programs.

Regarding claim 5, Tan discloses the duration of the stream of audiovisual data (col.9, ln.26-28 and ln.38-42, in fig.12-13, Tan discloses the time or duration of the audiovisual data that is compressed so that an appropriate bit rate can be determined for the flow of data). Tan does not disclose wherein the duration of the stream of audio-visual data is derived from meta-data associated with the stream of audio-visual data. However, Vetro discloses wherein the duration of the stream of audio-visual data is derived from meta-data associated with the stream of audio-visual data (col.7, ln.62 to

col.8, ln.5 and col.8, ln.63 to col.9, ln.5, note meta data includes time stamps (DTS, PTS, etc.), bit rate, set of parameters, characteristics, rate quality tradeoffs that include the duration or time of the stream).

Regarding claim 6, Tan discloses wherein the duration of the stream of audio-visual data is derived from an apparatus for storing audio-visual data (col.9, ln.26-28 and ln.38-42, in fig.12-13, Tan discloses the time or duration of the audiovisual data that is compressed so that an appropriate bit rate can be determined for the flow of data), the apparatus being pre-programmed to store the stream of audio-visual data (col.6, ln.1-10, note the data is pre-programmed to store the audiovisual stream, and in fig.12, element 304 and 306 store the audiovisual stream).

Regarding claim 7, Tan discloses wherein the apparatus is pre-programmed to record the stream of audio-visual data from a predetermined start time until a pre-determined end time (col.6, ln.1-10, note the data is pre-programmed to store the audiovisual stream, and in fig.12, element 304 and 306 store the audiovisual stream with DTS and PTS that incorporates the predetermined start and end times).

Regarding claim 8, Tan discloses wherein the size of the stream of audio-visual data is determined prior to reception of the full stream of audio-visual data (col.9, ln.39-47, Tan discloses the video complexity verifier queue is determined to check whether the size of the data does not exceed the maximum amount of macroblocks permitted by the constraints as computed dependent on the complexity information of the audiovisual data).

Regarding claim 11, Tan discloses an apparatus for storing a stream of audio-visual data, the apparatus comprising a compression controller for compressing the stream of audio-visual data prior to storage of the stream of audio-visual data and the circuit (fig.12, element 301 compresses the audiovisual stream data; col.6, ln.1-10, note the data is pre-programmed to store the audiovisual stream, and in fig.12, element 304 and 306 store the audiovisual stream with DTS and PTS that incorporates the predetermined start and end times).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tan (6,542,549) and Vetro (6,490,320) in view of Houston (6,477,312).

Regarding claim 9, Tan and Vetro do not disclose wherein the stream of audio-visual data is analog and digitized prior to the compression. However, it is extremely obvious to one of ordinary skilled in the art to make the data analog and digitized prior to compression as the data is received, and it is obvious to one of ordinary skill in the art to utilize an analog-to-digital converter to convert the data into digitized format so as to properly prepare the compression process of the encoding of audiovisual data so as to ensure efficient coding/decoding of audiovisual data, and the digital-to-analog converter to convert the image for display onto analog output, and Houston reinforces the teaching of the well known feature of the analog to digital converter and the digital-to-analog converter for the aforementioned reasons mentioned above (col.3, ln.8-16, note Houston discloses the analog-to-digital converter 29 and digital-to-analog converter 31). Therefore, it would have been obvious to implement the well known teachings of the analog-to-digital converter and digital-to-analog converter, as taught by Houston, with

the combination of Tan and Vetro for permitting the data to be processed at the correct format so as to encode/decode efficiently and precisely. Implementing well known teachings to yield the expected results of converting data into analog and digital format is essential in the art of encoding/decoding audiovisual data for ensuring efficient and precise encoding/decoding.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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9/16/09